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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/436,637	11/09/1999	TAKAHISA NITTA	1776/044	6921

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EXAMINER

COOLEY, CHARLES E

ART UNIT	PAPER NUMBER
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1723 10
DATE MAILED: 06/05/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

RJ

Office Action Summary	Application No. 09/436,637	Applicant(s) Nitta et al.
	Examiner Charles Cooley	Art Unit 1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on 15 Mar 2002
 - 2a) This action is FINAL. 2b) This action is non-final.
 - 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.
- Disposition of Claims**
- 4) Claim(s) 1-61 is/are pending in the application.
 - 4a) Of the above, claim(s) 16-61 is/are withdrawn from consideration.
 - 5) Claim(s) _____ is/are allowed.
 - 6) Claim(s) 1-15 is/are rejected.
 - 7) Claim(s) _____ is/are objected to.
 - 8) Claims 1-61 are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 14 Feb 2000 is/are a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All b) Some* c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
 - a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
- 4) Interview Summary (PTO-413) Paper No(s). _____
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: _____

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OFFICE ACTION

1. This application has been reassigned to another examiner in Art Unit 1723 and the following will apply for this application:

- a. Please direct all written correspondence with the correct application serial number for this application to Art Unit 1723.
- b. Telephone inquiries regarding this application should be directed to the Technology Center 1700 receptionist at ~~(703)~~ 308-0651 or to the Examiner at ~~(703)~~ 308-0112. Official facsimile correspondence filed before a final office action should be transmitted to ~~(703)~~ 872-9310. Official facsimile correspondence which responds to a final office action should be transmitted to ~~(703)~~ 872-9311.

- c. Inquiries regarding application status, matching responses with applications, patent term questions, locating and retrieval of applications, incomplete office actions, requests for copies of office actions and/or references, requests to remail office actions, small/large entity status, or other administrative inquiries should be directed to the **Technology Center 1700 Customer Service Center** at ~~(703)~~ 306-5665.

Election/Restriction

2. Applicant's election of Group I, claims 1-15 in Paper No. 9 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in

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the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

3. Claims 16-61 are thereby withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made without traverse in Paper No. 9.

Priority

4. Acknowledgment is made of applicant's claim for priority based on three Japanese applications. It is noted, however, that applicant has not filed certified copies of the applications as required by 35 U.S.C. § 119. The letter of 14 FEB 2000 regarding the priority documents is noted, however, the priority documents are not in the file wrapper.

Drawings

5. The drawings filed 14 FEB 2000 are objected to because of the following informalities:

a. the different views of Figures 13A and 13B (i.e., the side, front, and upper views) are not numbered separately in consecutive Arabic numerals in the order in which they appear on the drawing sheets (37 CFR 1.84(u)).

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b. the drawings contain improper sectional views. The plane upon which a sectional view is taken should be indicated on the view from which the section is cut by a broken line. The ends of the broken line should be designated by Arabic or Roman numerals corresponding to the view number of the sectional view, and should have arrows to indicate the direction of sight (37 CFR 1.84(h)(3)). Correction is required.

For example, Figure 4 should be a sectional view taken along line 4-4 in Figure 3 (not sectional line I-I') and Figure 5 should be a sectional view taken along line 5-5 in Figure 3. All sectional views should be corrected in accordance with 37 CFR 1.84(h)(3).

Applicant should also ensure a proper one-to-one correspondence between the specification and drawings in accordance with MPEP 608.01(g) and 37 CFR 1.84(f). The brief description of the drawings and the descriptive portion of the specification require revision in accordance with the above drawing objections.

c. All exploded views (e.g., see Figs. 10A, 10B, 11A) should be embraced by a bracket (37 CFR 1.84(h)(1)).

Correction is required.

6. Applicant should verify that (1) all reference characters in the drawings are described in the detailed description portion of the specification and (2) all reference characters mentioned in the specification are included in the appropriate drawing Figure(s) as required by 37 CFR 1.84(p)(5).

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7. Applicant is required to submit a proposed drawing correction in response to this Office Action. Any proposal by the applicant for amendment of the drawings to cure defects must include a print or pen-and-ink sketch showing changes in *red ink* in accordance with MPEP § 608.02(v).

IMPORTANT NOTE: The filing of new formal drawings to correct the noted defect may be deferred until the application is allowed by the examiner, but the print or pen-and-ink sketch with proposed corrections shown in red ink is required in response to this Office Action, and *may not be deferred*.

Specification

8. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

9. The abstract is acceptable.

10. The title is acceptable.

Claim Rejections - 35 U.S.C. § 112, second paragraph

11. Claims 1-15 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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The claims are narrative in form and replete with indefinite and functional or operational language. The structure which goes to make up the device must be clearly and positively specified. The structure must be organized and correlated in such a manner as to present a complete operative device.

All occurrences of "it" and "its" throughout the claims should positively rather than inferentially recite which element(s) is/are being referred to.

Claim 1, line 9 is worded in an awkward manner.

Claim 3, line 6: the claim is indefinite because it is not known what constitutes a "pushing-out type" pump.

Claim 5, line 3: "said pump" lacks antecedent basis.

Claim 6, line 2 is worded in an awkward manner; in line 2, "said shaker" lacks antecedent basis; in line 7, "said movable wall" lacks antecedent basis. It appears claim 6 has incorrect dependency.

Claim 7, line 4: "said chemical supply pump" lacks antecedent basis.

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Claim 8, line 4: the claim is indefinite because it is not known what constitutes a "tubule member"; lines 5-8 are worded in an awkward manner.

Claim 10, line 11: "said chemical supply pump" lacks antecedent basis.

Claim 15, lines 3-4: "the upstream of said solvent" lacks antecedent basis and "the connection portion" lacks antecedent basis.

12. Each pending claim should be thoroughly reviewed such that these and any other informalities are corrected so the claims may particularly point out and distinctly claim the subject matter which applicant regards as the invention, as required by 35 U.S.C. § 112, second paragraph. The claims are being treated on the merits to the extent they are understood and considered definite.

Claim Rejections - 35 U.S.C. § 102

13. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

14. Claims 1, 3, 5, 8, 9, 11, 12, 13, and 15 are rejected under 35 U.S.C. § 102(e) as being anticipated by Hashimoto et al. (USP 5,918,976).

The patent to Hashimoto et al. (USP 5,918,976) discloses a chemical mixing system comprising a chemical reservoir 16; chemical supply means 15; piping system (as seen in Figs. 1-2); the chemical supply means including a first pump 15 and a second pump 22 for feeding liquid; cooling means 12, 18, 20; connecting flow passage 17; control system 27; mixing means 19 with a spiral pitch (Fig. 4); the reservoir including a main reservoir 16 and an auxiliary reservoir 11 with level regulation means 29; the system having a connecting tube and being a closed system as seen in the Figures.

15. Claims 1, 8, 9, 12, and 15 are rejected under 35 U.S.C. § 102(b) as being anticipated by Rodgers et al. (USP 4,664,528).

The patent to Rodgers et al. (USP 4,664,528) discloses a chemical mixing system comprising a chemical reservoir 7; chemical supply means 1; piping system (as seen in Fig. 1); connecting flow passage 11; control system 35; mixing means 15 or 24; the system having a connecting tube and being a closed system as seen in the Figures.

16. Claims 1, 3, 8, 12, 13, and 15 are rejected under 35 U.S.C. § 102(b) as being anticipated by Cadeo et al. (USP 4,964,732).

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The patent to Cadeo et al. (USP 4,964,732) discloses a chemical mixing system comprising a chemical reservoir 1, 2, 3, 4; chemical supply means 5, 6, 7, 21; piping system (as seen in Fig. 3); the chemical supply means including a first pump 5, 6, 7, or 21 and a second pump (another of 5, 6, 7, or 21) for feeding liquid; connecting flow passage 21; mixing means 13; the reservoir including a main reservoir 1, 2, 3, or 4 and an auxiliary reservoir (another of 1, 2, 3, or 4) with level regulation means 11; the system having a connecting tube and being a closed system as seen in Figure 3.

17. Claims 1, 8, 9, 10, 13, and 15 are rejected under 35 U.S.C. § 102(b) as being anticipated by O'Dougherty et al. (USP 5,522,660).

The patent to O'Dougherty et al. (USP 5,522,660) discloses a chemical mixing system comprising a chemical reservoir 23, 23.1; chemical supply means 20; piping system (as seen in Fig. 1); connecting flow passage 24; control system 14; flow regulation means 53-55; concentration regulation means 39; chemical supply control means 31; concentration control means (Fig. 4); the reservoir including a main reservoir 23 or 23.1 and an auxiliary reservoir 11 with level regulation means 13, 55; the system having a connecting tube and being a closed system as seen in Figure 1.

18. Claims 1, 3, 8, 9, 13, 14, and 15 are rejected under 35 U.S.C. § 102(e) as being anticipated by Suzuki et al. (USP 5,800,056).

The patent to Suzuki et al. (USP 5,800,056) discloses a chemical mixing system comprising a chemical reservoir 5; chemical supply means 11; piping system (as seen

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in Fig. 1); the chemical supply means including a first pump 11 and a second pump 13 for feeding liquid; connecting flow passage (proximate 11); control system C; the reservoir including a main reservoir 5 and an auxiliary reservoir 2 with level regulation means S1, S2 in the form of sensors; the system having a connecting tube and being a closed system as seen in Figure 1.

* * *

With regard to the above rejections, the operational and functional language throughout the claims (non-limiting examples being the language of claim 1, lines 14-18 and language present in claims, 3, 6, 14, 15) has been considered but fails to impart or invoke any further structure or means (per 35 USC 112, sixth paragraph and MPEP 2181) to the pending apparatus claims which defines over the applied prior art. Consequently, since all of the claimed structure is met by the applied prior art, the rejections under 35 USC 102 are deemed proper.

Claim Rejections - 35 U.S.C. § 103

19. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

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Patentability shall not be negated by the manner in which the invention was made.

20. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

21. Claim 5 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Rodgers et al. (USP 4,664,528), Cadeo et al. (USP 4,964,732), O'Dougherty et al. (USP 5,522,660), or Suzuki et al. (USP 5,800,056) in view of Pawloski et al. (USP 3,738,815).

Rodgers et al. (USP 4,664,528), Cadeo et al. (USP 4,964,732), O'Dougherty et al. (USP 5,522,660), or Suzuki et al. (USP 5,800,056) do not disclose the recited cooling means. Pawloski et al. (USP 3,738,815) discloses a chemical processing system including piping loop 10 and a pump 20 therein. A cooling means 32 is provided about the piping and proximate the pump. It would have been obvious to one having ordinary skill in the art, at the time applicant's invention was made, to have

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provided the systems of Rodgers et al. (USP 4,664,528), Cadeo et al. (USP 4,964,732), O'Dougherty et al. (USP 5,522,660), or Suzuki et al. (USP 5,800,056) in view of Pawloski et al. (USP 3,738,815) with a cooling means for the purpose of cooling the elements of the system such as the piping and pump (see claim 1, part 6).

22. Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Hashimoto et al. (USP 5,918,976), Rodgers et al. (USP 4,664,528), Cadeo et al. (USP 4,964,732), O'Dougherty et al. (USP 5,522,660), or Suzuki et al. (USP 5,800,056) in view of Shibata et al. (USP 4,787,921).

Hashimoto et al. (USP 5,918,976), Rodgers et al. (USP 4,664,528), Cadeo et al. (USP 4,964,732), O'Dougherty et al. (USP 5,522,660), or Suzuki et al. (USP 5,800,056) do not disclose the recited degassing tube. Shibata et al. (USP 4,787,921) discloses a degassing tube (Fig. 1) with a degassing membrane 4 used in chemical processing systems. It would have been obvious to one having ordinary skill in the art, at the time applicant's invention was made, to have provided the systems of Hashimoto et al. (USP 5,918,976), Rodgers et al. (USP 4,664,528), Cadeo et al. (USP 4,964,732), O'Dougherty et al. (USP 5,522,660), or Suzuki et al. (USP 5,800,056) with a degassing tube as disclosed by Shibata et al. (USP 4,787,921) for the purpose of removing gaseous components contained in liquids (col. 1, lines 6-18).

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* * *

23. While the examiner might speculate as to what is meant by the language of claim 6 in view of the apparent improper dependency, the uncertainty provides the examiner with no proper basis for making the comparison between that which is claimed and the prior art (MPEP 2173.06). Rejections under 35 U.S.C. 103 should not be based upon "considerable speculation as to the meaning of terms employed and assumptions as to the scope of the claims." *In re Steele*, 305 F.2d 859, 134 USPQ 292 (CCPA 1962). When no reasonably definite meaning can be ascribed to certain terms in a claim, the subject matter does not become obvious, but rather the claim becomes indefinite. *In re Wilson*, 424 F.2d 1382, 165 USPQ 494 (CCPA 1970). As it has been held that it is improper to rely on what are at best speculative assumptions as to the meaning of a claim and then base a rejection under 35 U.S.C. 103 thereon, no such rejections have been made concerning claim 6. *Ex parte Brummer*, 12 USPQ2d 1654. However, the lack of such rejections should not be construed as meaning that the claims as presently drawn would be patentable if corrected. Any response should carefully consider the prior art of record in accordance with 37 CFR 1.111.

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Allowable Subject Matter

24. Claims 2 and 4 would be allowable if rewritten to overcome the rejection under 35 U.S.C. § 112 and to include all of the limitations of the base claim and any intervening claims.

Conclusion

25. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The cited prior art discloses chemical processing systems.

26. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Charles Cooley whose telephone number is ☎ (703) 308-0112.

27. Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center 1700 receptionist whose telephone number is ☎ (703) 308-0651.

Dated: 31 May 2002



**Charles Cooley
Primary Examiner
Art Unit 1723**